FLAME LECTURE: 151

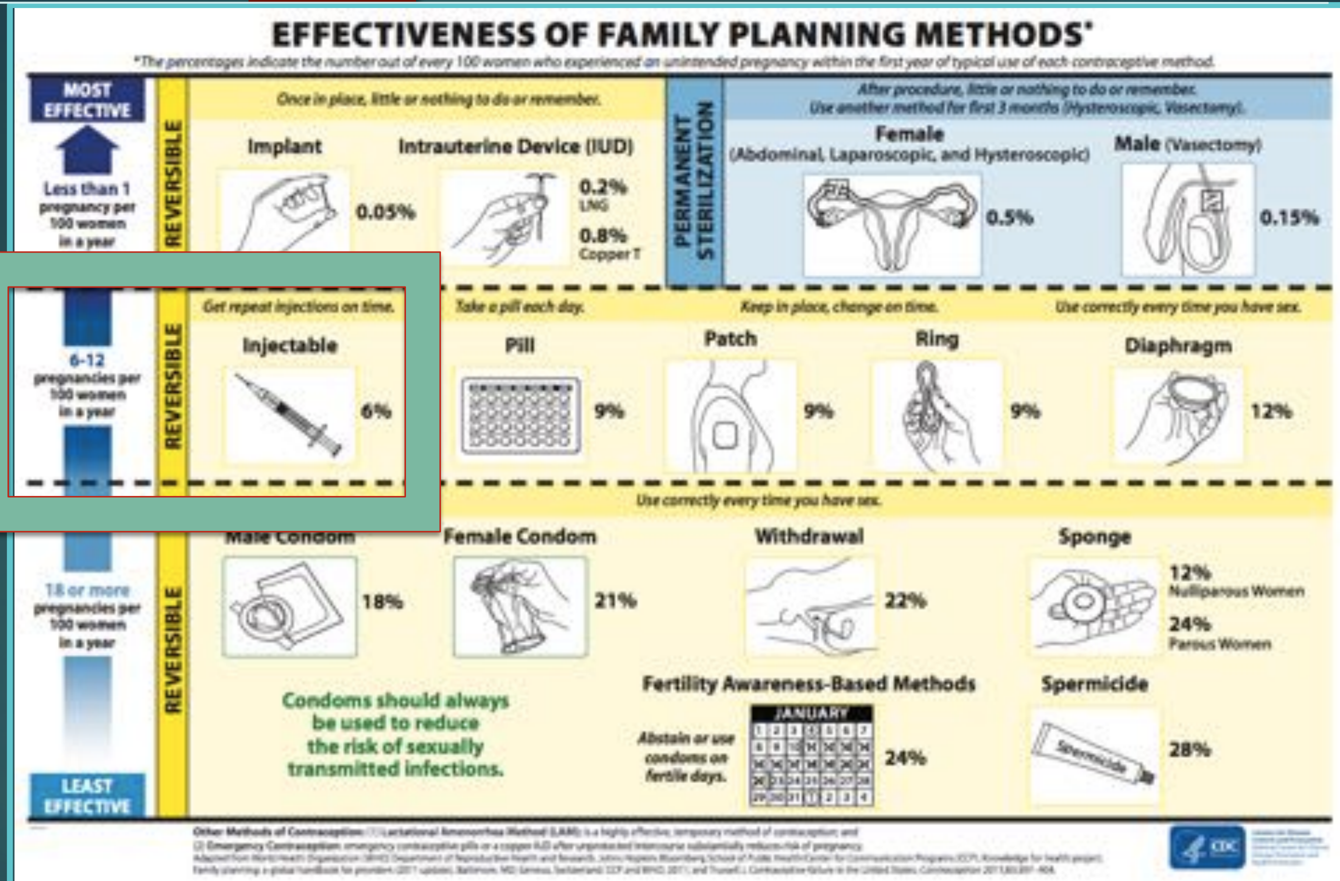
BURNS 1.1.15

- Describe the mechanism and effectiveness of contraceptive procedures
- Counsel patients about the benefits, risks and use for each contraceptive method
- Describe barriers to effective contraceptive use and to the reduction of unintended pregnancy
- Prerequisites:
  - NONE
- See also – for closely related topics
  - FLAME LECTURES 149A-C – Combined hormonal contraceptives
  - FLAME LECTURE 150 – Barrier contraceptive methods
  - FLAME LECTURE 152 – Nexplanon
  - FLAME LECTURE 153 – Mirena IUD for contraception
  - FLAME LECTURE 154 – Paragard for contraception
  - FLAME LECTURE 149A2 – The Contraceptive Counseling Visit

Depo-Provera (Depot Medroxyprogesterone Acetate / DMPA)

- Progestin-only contraceptive
  - Suppresses ovulation by inhibiting LH / FSH surge
  - Thickens cervical mucous, blocking sperm entry
  - Thins endometrium by decreasing ovarian release of estrogen

Navigate: Overview | Effectiveness | Advantages | Disadvantages | Clinical Protocol



DMPA Injection

Perfect use: .3% failure in 1st year Typical use: 3% failure in 1st year Continuation after 1 year: 56%

ADVANTAGES

- Menstrual
  - Decreased menstrual blood, anemia, hemorrhagic cysts
  - After 1 year, 50% of women develop amenorrhea (80% after 5 years)
  - Decreased menstrual cramps
  - Improvement in endometriosis (*Depo-provera Subcutaneous is FDA approved for managing endometriosis pain*)
- Decreased risk for endometrial cancer
  - Possible decreased risk of ovarian cancer
- Convenient, requires no action at time of intercourse
- Reduced blood loss for anticoagulated women, with anemia, or with bleeding diathesis
- Reduces acute sickle cell crises
- Increases seizure threshold
- Reduces risk for ectopic pregnancies
- Private (no visual clue that patient is using method except change in menses)
- May be used by nursing mothers

DISADVANTAGES

- Irregular menses and spotting during first several months
- No protection against STI's
- Must return for injections every 11-13 weeks
- Only modality with evidence supporting weight gain
- Not immediately reversible
- Slow return to fertility (avg. 10 months back to baseline)
- FSH suppression can lead to hypoestrogenism (risk for decreased bone mineral density)
  - infrequently causes dyspareunia, hot flashes, or decreased libido
- Acne, hirsutism may develop
- Metabolic: slight increase in glucose and LDL, slight decrease in HDL
- Most worrisome concern for: worsening existing depression (not more likely SE in depressed pts, but of greater concern), allergic reaction, pathologic weight gain (especially in obese patients)

Black Box Warning:
FDA Issued black box warning d/t decreased BMD that can occur w/ DMPA use (especially for >2years). Effect is reversible with discontinuation and ACOG doesn't recommend limiting use.

Contraindications:

- Drug interactions: Aminoglutethimide (Cytodren) used in treating Cushing's disease reduces DMPA efficacy
- Contraindicated if have: known bone fracture, existing osteoporosis or other strong risk factor for bone fracture

INITIATION

- Pelvic exam, breast exam, lab tests, and blood pressure monitoring **NOT** necessary prior to initiation
- Pregnancy should be excluded, but if patient becomes pregnant or has injection while pregnant, no risk for congenital anomalies has been found
- Cycling women:
  - Preferred start time is during first 7 days from start of menses
  - Can also inject anytime in cycle if not pregnant but should use back-up contraception for 7 days
- Postpartum: May give injection prior to hospital discharge, except:
  - After severe obstetrical blood loss, delay injection until after vaginal discharge stops
  - If high risk for post-partum depression delay injection until after 6 week visit
  - Breast feeding women may start immediately or after 4-6wks
- If switching methods, may get injection anytime and start immediately
  - If switching from IUD should abstain from sex for seven days *prior* to IUD removal

ADMINISTRATION

IM INJECTION: 150 mg of DMPA administered by deep IM injection into gluteal or deltoid muscle q3m (13 weeks)

SUBCUTANEOUS: prefilled syringe shaken and 104mg administered into anterior thigh or abdomen (off label includes upper arm)

SELF-ADMINISTRATION: off-label but can enhance access

- Women who present late for their next shot (>13 weeks):
  - There is a 2-week "grace period" because ovulation doesn't occur until 14 weeks after the last 150mg injection
  - Thus patients who present <15 weeks after their previous shot do not need pregnancy testing before receiving their next shot
  - If a patient presents >15 weeks after their previous shot they should receive pregnancy testing and use back up contraception for 7 days
- If patient needs next injection early (<11wks) due to travel, may give next shot

ADMINISTRATION

- Instructions for patient:
  - Do not massage area of shot for a few hours
  - Expect irregular bleeding/spotting for first few months
  - Missing periods is not harmful and to be expected
  - Take calcium supplements if diet doesn't include enough calcium
  - Return in 11-13 weeks for next injection
  - Return if you experience: severe headaches, heavy bleeding, depression, or problems at shot site

FOLLOW-UP & DISCONTINUATION

At follow-up:

DO: Check for weight gain & ask patient about protection against STI's

DON'T: No need for BMD testing (despite black box warning, ACOG does not recommend)

- Discontinuation
  - Switching to different method: can initiate new method at any time, preferred time is near end of effectiveness of last DMPA injection
    - DO NOT wait until next menses to start OCP's b/c amenorrhea can continue for up to 18 months after discontinuation
  - Fertility after discontinuation: anovulation may continue for more than 1 year
    - Fertility usually returns after 3 months, but average time to conception is 6-7 months compared to 4 months with other methods
    - Gonadotrophin therapy can help induce ovulation but won't overcome effects of DMPA on cervical mucous
    - Women who wish to conceive within 1-2 years of starting DMPA should consider another contraceptive option instead

CDC Guideline - DMPA

1 = No restriction for the use of the contraceptive method.
2 = Advantages of using the method generally outweigh the theoretical or proven risks.
3 = Theoretical or proven risks usually outweigh the advantages of using the method.
4 = Unacceptable health risk if the contraceptive method is used.

Condition	Subcondition	Category
Age		Menarche to <18 years = 2
		18-45 years = 1
		> 45 years = 2
Parity		
Nulliparous		1
Parous		1
Postpartum (nonbreastfeeding)		
<21 days		1
21 to 42 days	With risk of VTE	1
	No risk of VTE	1
>42 days		1
Postpartum (breastfeeding)		
<21 days		2
21 to <30 days	With risk of VTE	2
	No risk of VTE	2
30 to 42 days	With risk of VTE	1
	No risk of VTE	1
>42 days		1
Postabortion		
First trimester		1
Second trimester		1
Immediate post-septic abortion		1
Past ectopic pregnancy		1
Smoking		
Age <35 years		1
Age >35 years	<15 Cig/day	1
	≥15 Cig/day	1
Obesity		
BMI >30		1
Menarche to <18 years and BMI≥30		2
History of Bariatric surgery that limits absorption of nutrients		1
Cardiovascular disease		
Multiple risk factors for arterial CV disease		3
Hypertension	Adequately controlled	2
	Systolic 140-159 or Diastolic 90-99	2
	Systolic ≥ 160 or Diastolic ≥ 100	3
Vascular disease		3
History of high blood pressure during pregnancy		1
Deep Vein Thrombosis / Pulmonary Embolism	History of DVT/PE, not on anticoagulant therapy	2
	Acute DVT/PE	2
	Established DVT/PE, on anticoagulant therapy for at least 3 mo	2
	Family history	1

Condition	Subcondition	Category
Major surgery6.41	With prolonged immobilization	2
	Without prolonged immobilization	1
Known thrombogenic mutations		2
Superficial venous thrombosis	a. Varicose veins	1
	b. Superficial thrombophlebitis	1
Current and history of ischemic heart disease		3
Stroke§ (history of cerebrovascular accident)		3
Known hyperlipidemias		2
Valvular heart disease	a. Uncomplicated	1
	b. Complicated (pulmonary hypertension, risk for atrial fibrillation, history of subacute bacterial endocarditis)	1
Peripartum Cardio-Myopathy	a. Normal or mildly impaired cardiac function (Patients with no limitation or slight/mild limitaiton of activities)	1
	b. Moderately or severely impaired cardiac function (Patients with marked limitation of activity or patients who should be at complete rest)	2
Rheumatic Diseases		Initiation | Continuation
SLE	a. Positive (or unknown) antiphospholipid antibodies	3 | 3
	b. Severe thrombocytopenia	3 | 2
	c. Immunosuppressive treatment	2 | 2
	d. None of the above	2 | 2
Rheumatoid arthritis	a. On immunosuppressive therapy	2/3*
	b. Not on immunosuppressive therapy	1
Neurologic conditions		
Headaches		Initiation | Continuation
a. Non-migrainous (mild or severe)		1 | 1
b. Migraine	i. Without aura / <35 years	2 | 2
	Without aura / ≥35 years	2 | 2
	With aura	2 | 3
Epilepsy		1
Depressive disorders		
Depressive disorders		1
Reproductive tract infections and disorders		
Vaginal bleeding patterns	a. Irregular pattern without heavy bleeding	2
	b. Heavy or prolonged bleeding (includes regular and irregular patterns)	2
Unexplained vaginal bleeding (before evaluation)		3
Endometriosis		1
Benign ovarian tumors (including cysts)		1
Severe dysmenorrhea		1
Gestational trophoblastic disease	a. Decreasing or undetectable beta-hCG levels	1
	b. Elevated beta-hCG levels or malignant disease	1
Cervical ectropion		1
Cervical intraepithelial neoplasia		2
Cervical cancer (awaiting treatment)		2

Condition	Subcondition	Category
Breast disease	a. Undiagnosed mass	2
	b. Benign breast disease	1
	c. Family history of cancer	1
	d. Breast cancer (current)	4
	e. Breast cancer (past / no evidence of current for 5yrs	3
Endometrial hyperplasia		1
Endometrial cancer		1
Ovarian cancer		1
Uterine fibroids		1
Pelvic inflammatory disease (PID)	a. Past PID (assuming no current risk factors of STIs)	1
	b. Current PID	1
STIs		1
HIV/AIDS	High risk for HIV	1
	HIV infection	1
	AIDS	1
Other infections	Schistosomiasis	1
	Tuberculosis	1
	Malaria	1
Endocrine Conditions		
Diabetes	a. History of gestational disease	1
	b. Nonvascular disease (Type I or Type II)	2
	c. Nephropathy/retinopathy/ neuropathy	3
	d. Other vascular disease or diabetes of >20 years' duration	3
Thyroid disorders	a. Simple goiter	1
	b. Hyperthyroid	1
	c. Hypothyroid	1
Gastrointestinal conditions		
Inflammatory bowel disease (IBD)		2
Gallbladder disease	a. Symptomatic	2
	b. Asymptomatic	2
History of cholestasis	a. Pregnancy-related	1
	b. Past COC-related	2
Viral hepatitis	a. Acute or flare	1
	b. Carrier	1
	c. Chronic	1
Cirrhosis	a. Mild (compensated)	1
	b. Severe (decompensated)	3
Liver tumors		
a. Benign	i. Focal nodular hyperplasia	2
	ii. Hepatocellular adenoma§	3
b. Malignant (hepatoma)		3
Anemias		1
Solid organ transplantation		2
Drug Interactions		
Antiretroviral Therapy		1
Anticonvulsant Therapy		1
Antimicrobial Therapy		1

IMPORTANT LINKS

- CDC US Medical Eligibility Criteria for Contraceptive Use Chart
- ACOG Practice Bulletin Number 73: Use of hormonal contraception in women with coexisting conditions (June, 2006)

1. Managing Contraception *2012-2014*
2. UpToDate: Depot medroxyprogesterone acetate for contraception